(GB) Infrared Mobile Digital Scouting Camera
User's Manual
MG983G-12M
Art.-Nr. 31544

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1 Instruction

1.1 Instruction

This camera, a digital scouting camera with 3G function, is a digital infrared surveillance camera, triggered by any movement of human or animal monitored by a high sensitive Passive Infrared (PIR) motion sensor, and then automatically captures high quality pictures (up to 12M pixels) or records video clips (720P HD). It sends pictures or videos (length 5-10 sec.) instantly to your mobile device or e-mail via WCDMA/GPRS network. You'll be alerted just when the camera is triggered or per custom settings.

It takes color pictures or videos under sufficient daylight. While at night, the built-in infrared LEDs can help to take clear pictures or videos (monochrome).

There is a 3" color LCD display screen on the camera and a sound recorder embedded in the camera. A laser pointer is used to help target the photo area of the camera in setup mode press left key (on/off).

It is resistant against water and snow. The camera can also be used as a portable digital camera.

1.2 Application

This camera can be used as an automatic surveillance device for guarding and recording unexpected intrusion to homes, shops, schools, depots, offices, taxis, work sites, etc. It can also be used as a trail camera for hunting or monitoring animals by recording the traces of wild animals. It can be left alone for weeks and months and it will save event records automatically in digital format.

1.3 Camera Overview

Take a few moments to familiarize with the camera controls and displays. It is helpful to bookmark this section and refer to it when reading through the rest of the manual.

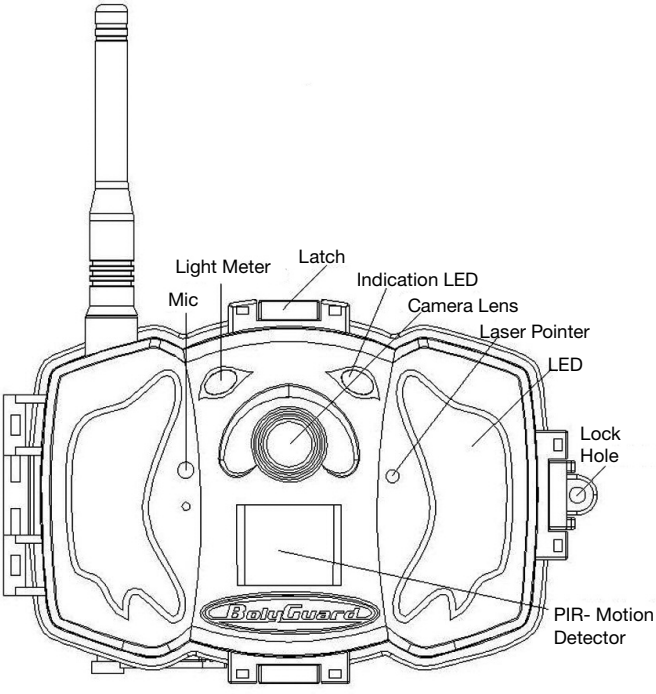


Figure 1 Diagram of camera functional indicators

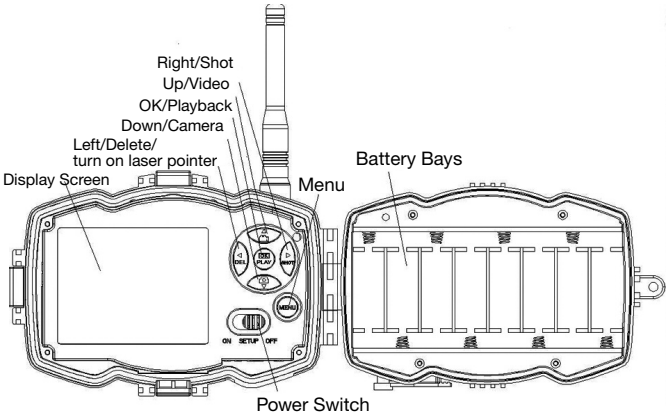


Figure 2 Inner panel view

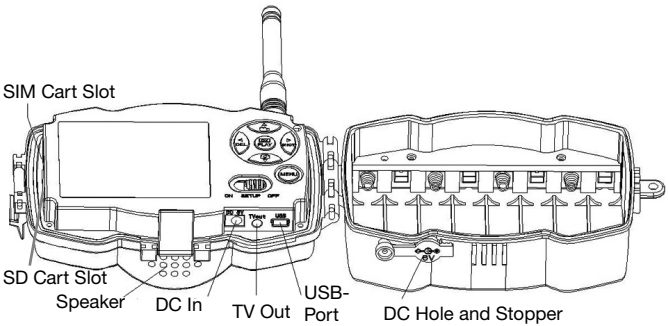


Figure 3 Diagram of camera interfaces

1.4 Shooting Information Display

When the camera is turned on (the power switch is slid to TEST position), the current settings will be displayed on screen.

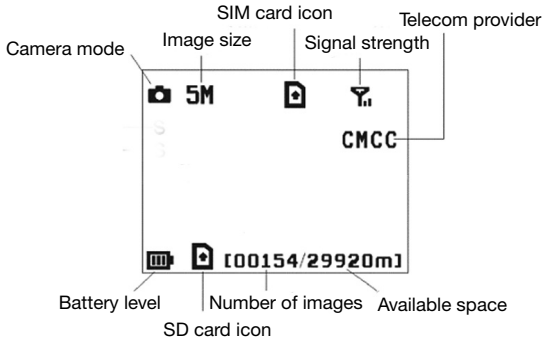


Figure 4 Shooting information display

is the correct SIM card status and the available space of SD card should be a none zero value.

1.5 Two Way Communication

When in **Hunting mode**, you can set **SMS control** submenu as **ON** to open the two way communication function. Under this setting, the camera can receive and respond to your SMS command or the Android APP command. And you can retrieve live voice and pictures in this mode.

2 Cautions

- **The working voltage of the camera is 6V.** The camera is supplied by the power adapter or 8 AA batteries.
- Please install batteries according to shown polarity.
- **Please insert the SD card before power on camera.** The camera has no internal memory for saving images or videos. **The camera will not work if there is no SD card.**
- **Please make sure that your SIM card supports the GPRS data business.**
- **When going into the SETUP mode, allow approximately 10-20 seconds for the camera to acquire a signal.**
- Please unlock the write-protect switch before inserting the SD card.
- Please do not insert or take out the SD card when the power switch is at ON position.
- It is recommended to format the SD card by the camera when used for the first time. Many other SD cards formatted by other cameras have poor compatibility with different brands of cameras. So it is best to format the SD card with this camera or on a computer.
- **In the SETUP mode, the camera will shut down automatically after 3 minutes if no operation is done.** Please turn on the power again if you want to continue to work with the control.

3 Quick Start Guide

3.1 Power Supply

Hunting mode or outdoor use: use 8 or 4 AA batteries. High-density and high-performance alkaline or lithium batteries are recommended.
Security mode or indoor use: use 6V/2A high quality power adapter. The battery can be just a backup for emergency use. Otherwise, the battery will be quickly consumed.

3.2 Insert SD card and SIM card

Setzen Sie eine nicht gesperrte SD-Karte und eine SIM-Karte mit GPRS ein.

Dear Customer! Please note! Depending on battery regulations you are required to used or defective batteries and accumulators, at no cost to you, return it to us

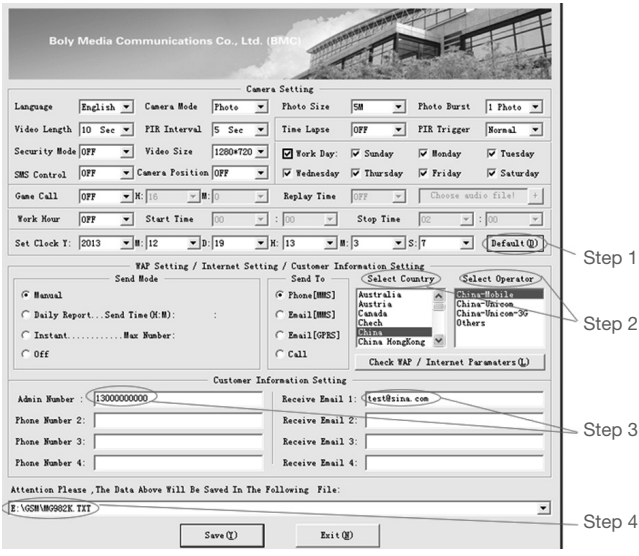
Every consumer is **legally obliged to dispose of WEEE separately from the household waste** and to dispose of at a collection site of his community / City District for example. Electric appliances are marked with the crossed out dustbin, accepted there for free.

3.3 Do the Camera Settings

Down load the camera set up software from our website. The specified website is written in the last page of the manual.

1) Open the software and select camera model:

2) Set the camera parameters



First, select your country and carriers (step1) according to your SIM card and input your receiving phone number in ”administrator number” and receiving e-mail address in ”Receive Email 1” (step3). For first time use, we suggest you to use default settings (step2), anysettings you want to change, please click ”Change setting”.
After finish settings, please **save the GSM folder** to the root directory of your SD card (step4).

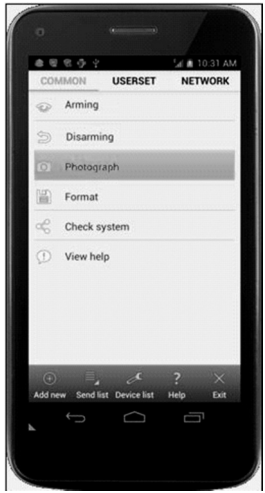
3.4 Manually Send a MMS or GPRS Photo

After you generate a setting file in your SD card, please slip the power switch to SETUP position. After the camera acquires the signal and the SIM card icon appears, target an object and press “**SHOT**” to take a photo manually.

Then press “**OK**” to playback the photos, press “▲” and “▼”, to switch to previous or next photo. Press “**MENU**” and you can see a **send Phone [MMS]** interface, press “**OK**” to send out the MMS. After a few seconds, you will receive a MMS in your phone.

3.5 SMS Control

When the camera is armed, you can send text message **“#T#”** to your camera’s SIM card number to get an on spot image or use our Android application tools. Note you need to set **SMS control ON** when using SMS command.
Down load the Android control software from our website. The specified website is written in the last page of the manual.
For iPhone, just download it from the App Store by searching BGTools.



4 Advanced Operations

This chapter explains the advanced operations for customizing the camera settings.

4.1 Work Mode

Setup mode: to program camera or to playback the photos or video clips.

Hunting mode: when animal or human intrudes into the monitoring region, the camera will take pictures or videos automatically according to the previous programmed settings. After switching the camera to ON position, the motion indication LED (red) will blink for about 10 seconds. This time interval is for you to position the camera for automatic surveillance operation..

Hunting mode

4.2 Settings Menu

Press **MENU** on the remote control to enter into the menu setting. The settings menu will be shown on the LCD.

Use "▲" or "▼" key to select the sub-menu, use "▶"key to select the different options, use "◀" to change different item page. Press "**OK**" to save the settings.

4.2.1 Setting Items

Setting Items	Description
Camera Mode	There are three camera modes: **Photo, Video** or **Pic+Video**. You can enter the main menu to set the camera mode. If you choose Pic+Video mode, the camera takes a picture and a video.
Photo Size	Choose the image size: 10 mega pixels or 5 mega pixels.
Video Size	Choose the video size: 1280x720 or 640x480.
Photo Burst	This parameter affects the number of pictures taken for each triggering in camera mode. It's from "1 Photo" to "6 Photos".
Video Length	Choose duration of recording video. It's from 10 seconds to 180 seconds.
Set Clock	Set camera date and time. You can change the date and time by setting this parameter when necessary, e.g., after every battery change. The date format is **month/day/year**, the time format is **hour: minute: second**.
Time Lapse	Time lapse means the camera can capture images or videos at a preset time interval regardless of whether motions are detected. The default parameter is **Off**, which means the timer function is disabled. Changing this parameter to a non-zero value turns on the Time Lapse mode, and camera will take photos at given time interval. **Please note that if the PIR Trigger is set to Off, then the Time Lapse can't be set to Off.**

PIR Trigger	Choose sensitivity of the PIR. The higher sensitivity indicates that the camera is more easily triggered by motion and takes more pictures or records more videos. It is recommended to use high sensitivity in room or environment with little interference, and to use lower sensitivity for outdoor or environment with lots of interference like hot wind, smoke, near window, etc. For normal use of the camera, the **Normal** mode is recommended and is the default setting.
PIR Interval	This parameter indicates how long the PIR (Passive Infrared motion sensor) will be disabled after each triggering in ON mode. During this time the PIR of the device will not react to the motion of human (or animal). The minimum interval is 0 second. It means the PIR can work all the time. The maximum interval is 1 hour. It means the PIR will be disabled for 1 hour after each triggering.
Work Hour	Choose a time period of a day to let the camera work. The camera will awake at the setting time duration in a day. In the rest of the time the camera is sleeping. Set Work Hour as off means the camera works all day.
Send to	There are 3 **Send** to modes: 1 Phone MMS: send images to mobile phone. 2 Email GPRS: send images to an e-mail address via GPRS use SMTP. 3 Call: calling your preset phone number when the camera is triggered. You should set your receiving phone number or your receiving e-mail address in the APP program to function it.

Send Mode	There are 4 SEND modes: “Manual” works in SETUP mode “Daily” and “Instant” work in ON mode. “OFF” means to close the communicate function. 1. “**Manual**”: Choose “Manual” in SETUP mode. Please ensure a SIM card is inserted properly. Video information can´t be send in the SETUP mode when you choose Phone MMS; but you can send photos or videos (VGA less than 10s) when you choose Email GPRS via WCDMA. 2. “**Daily**”: Daily means the camera will report the summarized information at a preset time (if the preset time is, eg. 20:00 PM) on how many pictures it had taken per day. So, you will get a summarized text message with the last picture taken until 20:00 PM. If it is on Photo or video mode, the camera will send a MMS at the preset time. The MMS will show you the latest photo and the total quatity of the pictures taken. If it is on Video mode, the camera will send a SMS or video at the preset time. The SMS will show you how many video clips the camera has taken within 24 hours. If you choose “Daily”, you need to set the daily report time: xxH, xxM. 3. “**Instant**”: Instant, just works in ON mode, which means the camera will send a MMS to your phone instantly after it captures a photo or to your email with avideo (VGA less than 10 sec.). You can choose the number of pictures you want it to send out per day. If it is on Photo mode and you choose the Instant MMS mode, and set the MAX number as 10, the camera will send 10 MMS within 24 hours. It then continues to capture photos and save them on the SD card. After 24 hours, the camera will send MMS again when it captures photos. If it is on Video mode, the Camera will send only SMS instead of MMS when send to is set as Phone MMS. If you choose “Instant”, you need to set how many MMS you want to send for economic consideration. 4. “**Off**”: to disable MMS function.

SMS Control	**SMS Control** can enable two way communication function. It means if you choose **SMS Control** as **ON**, this camera can receive and respond your SMS command. Also you can retrieve live pictures any time. But the power consumption will be a little bigger than normal hunting status.
Game Call	It means this camera can play audio file at a preset time clock for preset times. The audio file must be saved in the directory of \DCIM\100BMCIM\ with a name of AUDIOxxxx (from 0000 to 9999). WAV after format the SD card and setting the game call as on mode, or choose the audio file in Windows APP. Note that Game Call will not function if the SD card is full..
Language	Choose the language you need.
Beep Sound	Enable or disable the beep sound.
Camera Posit	You can set A-Z position for your camera, so that you can distinguish which photo is taken by which camera.
Format SD	Format the SD card. All images and videos in the SD card will be deleted.
Default Set	Restore all customer settings to default values.
Version	Version information

4.2.2 Default Set

Setting Items	Default	Options	Description
Camera Mode	Photo	Video, Pic+Video	
Photo Size	5MP	10MP, 12 MP	
Video Size	1280x720	640x480	
Photo Burst	1 Photo	2-6 Photos	
Video Length	10 Sec.	5-180 Sec.	
Set Clock	Enter		Adjust Clock
Time Lapse	OFF	5Min-8H	
PIR Trigger	Normal	High, Low	
PIR Interval	5 Sec	0-55 Sec, 1-60 Min	
Work Day	Enter		
Work Hour	Off	00:00-23:59	
Send to	Phone MMS	Email GPRS, Call,	
Send Mode	Manual	Daily, Instant, Off	
SMS Ctrl	Off	On	Two way communication
Game Call	Off	On	Set the time and fre-quency of audio playback
Study Code	Enter		RCH(wireless control), Zone1-Zone7
Language	English	Suomi, Deutsch, Svenskt, Dansk (Version 1)	
Beep Sound	On	Off	
Camera Posit	Off	A to Z Position	
Format SD	Enter		Yes, No
Default Set	Save		
Version	Enter		

4.3 Change the Settings via Android APP or SMS

When you are far away from your house, you can get spot photos or change camera settings via our android application tools or SMS. Down load the Android APP from our website.

The specified website is written in the last page of the manual.

4.3.1 User Level

There are two user levels: administrator and normal users. Each user has a different authorization level:

Functions	User Level
Set administrator phone number	Only administrator's password
Set administrator's password	administrator
Set camera parameters	administrator
Set normal user	administrator
Receive emergency calling	administrator, normal user
Send SMS for on spot picture	administrator, normal user
Call the camera to listen in live voice	administrator, normal user
Receive MMS when triggered	administrator, normal user
Check camera status	administrator, normal user
Get help information	administrator, normal user

4.3.2 Use Android APP

It's easy to use the Android APP to communicate with the camera, so you don't need to edit the SMS. You just need to click the button to finish the operation.

4.3.3 SMS Command List

If you can't use the Android APP for easy operation, the list below shows all the SMS commands for you. You can control your camera via SMS.

A. Set GSM/WCDMA Parameter		
No	**Function**	**SMS Command**
1	Set Normal Users Phone Number	#n#13800138001#13800138002 #13800138003#
2	Set MMS Parameters	#m#http://mmsc.cingular.com#66.209.11.32#80 80# wap.cingular# account#password# (The example parameters are for the carrier of AT&T)
3	Set Email Parameters	#s#bmctest123@sina.com#bmc123#25#cmnet #smtp.sina.com#name#password#SSL#
4	Set Receive E-mail Address	#r#mail1@163.com # mail2@163.com#mail3@163.com # mail4@163.com#
		B. Normal Control
1	Get On Spot Photo	#T# (Send MMS to pho) #T#e# (Send picture to Email by GPRS)
2	Check Camera Settings	#L#
3	Format TF Card	#F#
4	Set Administrator`s Passwort	#P#0000# (It's suggested that the administrators password be changed at the beginning)
5	Help	#H#

C. Set Menu Parameter		
No	**Function**	**SMS Command**
1	Change Camera Mode	#e#cp# (photo mode) or #e#cv# (video mode) or #e#ct#(pic+video)
2	Change Photo Size	#e#s5# (5mp) #e#s10# (10mp)) or #e#s12# (12mp)
3	Change Photo Burst	#e#b1# (1-6 photos)
4	Change Video Size	#e#fh#(720p) or #E#fl#(VGA)
5	Change Video Length	#e#v5# or #E#v30# (the number after V is seconds)
6	Change Date Time	#e#t# (adjustment the time)
7	Change Time Lapse	#e#l1h# (1 hour) or #e#l5m# (5 min)
8	Change PIR Trigger	#e#po# (Off) or #e#ph# (High) or #e#pn# (Normal) or #e#pl# (Low)
9	Change PIR Interval	#e#i30m# (30 min) or #e#i30s# (30 sec)
10	Change Send To	#e#mp# (phone) or #e#me# (email) or #e#mc# (call) or #e#mg# (e-mail gprs)
11	Change Send Mode	#e#ed# (daily) or #e#ei10# (to set instant mode and the max number per day) or #e#eo# (off) or #e#em#(Manual)
12	Change Game Call	#e#gon18:00[5]# or #e#goff#
13	Change SMS Ctrl	#e#zon# or #e#zoff#
14	Change Camera Position	#e#oa# (a~z) to set the camera position function #e#ooff# to off the camera position function
15	Change Work Hour	#e#hoff# or #e#hon10:00-18:00#

5 Trouble Shooting

1 There is something in front of the camera lens. Is the camera broken?

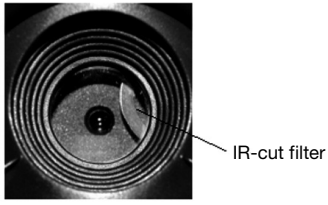


Figure 5 IR-cut filter

A: **The camera is not broken**. It's an IR-cut filter. When the camera is powered on, the IR-cut will be reset and cover the lens. Only when the camera is powered off, the IR-cut will be at a random place.

2 **The camera controller is not working anymore.**
A: Most likely, no SD card has been inserted in the camera when it is turned on. Please make sure a working SD card has been inserted in the camera before it is turned on.

3 **The display screen is suddenly black.**
A: To reduce power consumption, **the camera will shut down automatically after 3 minutes if no operation is done.** Please turn on the power again if you want to continue to work with the control.

4 **Why my phone can't receive MMS?**
A: MMS/GPRS function needs the SIM cards in both your camera and phone to have enough balance and to be opened to data business.

Appendix I: PIR Detection Zone

Figure 6 shows Bolymedia's 4 kinds of detection range at different detection angles. This camera is super long range with 60 degree.

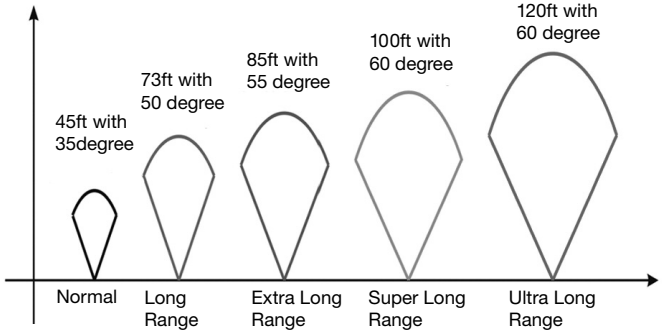


Figure 6 PIR Detection Zone

The PIR detection angle (❑) is just smaller than the field of view (FOV) angle (❑). The advantage of this design is to reduce empty picture rate and capture most, if not all, motions.

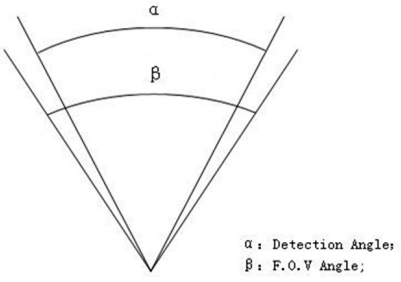


Figure 7 Detection angle vs. FOV angle
This camera has a new design of PIR.

The new PIR's detection range can reach to 100ft (in good environments). Figure 8 shows the compared detection zone between normal PIR and the new PIR.

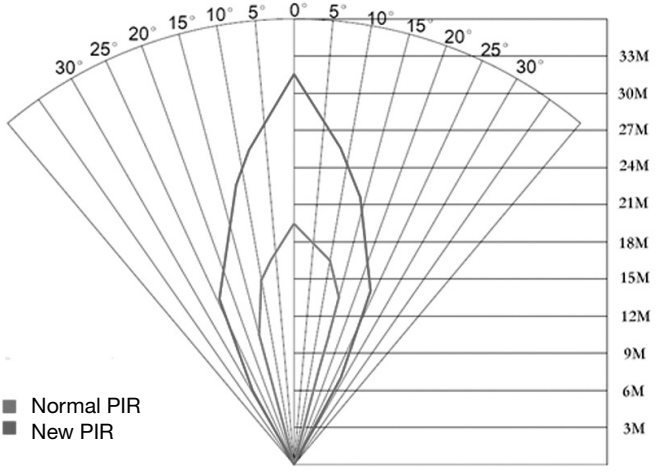


Figure 8 Comparison of Detection Zones of new and existing PIRs

Appendix II: Error Code

Code	Meaning	Description
3915	Non-existent adress	**Possible cause** 1. The user forgets to input the receiving cellphone number. 2. The user forgets to input the receiving E-mail address. **Suggestion**: 1. Check the MMS settings, input all the necessary parameters.
3919	File not found	**Possible cause:** 1. The file means the image file. It shows that the ystem can't find the image file when sending the MMS. Just when the system is unstable, it will happen (very small probability). **Suggestion:** 1. When the GSM and GPRS signal are both OK, please resend again. 2. When the GSM and GPRS signal are poor, please change a place to try again; 3. If 1 and 2 do not work and the error code 3919 always appears, please send the camera back for repairs.
3926 3927 3928	MMS busy; Sending MMS stopped; Sending MMS busy	**Possible cause:** When start a new MMS sending procedure, the previous MMS sending is not finished, so it will show these information. This is a inner use error, we have the correct programmer design, so it won't happen in the consumer's side. **Suggestion:** If it always shows 3926,3927 or 3928, maybe there is a hardware defect. Please send camera back for repair (very small probability).

Code	Meaning	Description
3939 3941 3942	Failed to open network; Network not deactivated; Network error	**Possible cause:** 1. The GSM network is not good or not well covered with the GPRS network. 2. The instability in signal transmission leads to some MMS setting parameters missing when the GSM base station do the data analysis. If for the incorrect transmission reason, the camera may show various error code. **Suggestion:** 1. Contact the network provider if the GPRS network is well covered in that area. 2. Change a place to try again. It's better to try in a public place, where there is always good signal. 3. If the provider said there is GPRS signal covered but the signal is weak, you can try to use a enhanced antenna that is SMA type with antenna gain of 10db.
-85	Not enough balance in SIM card; MMS setting error;	**Possible cause:** 1. The SIM card is not enough balance. 2. Not correct settings. 3.The GSM network is not good leading to a timeout problem (very small probability). **Suggestion:** 1.Please check to make sure your SIM card has enough balance. 2. Please check the MMS settings
	Other error code	Many codes in the list are used for debugging in the product design phase. Most of them will not be shown to consumers, so please ignore the other error codes and contract us directly. Thanks.

Appendix III: Technical Specifications

Image Sensor	5MP Color CMOS, 10MP, 12MP Interpolation
Lens	F/NO=2.2; FOV (Field of View)=60°
PIR Detection Range	30m/100ft
Display Screen	3" LCD
Memory Card	From 8 MB to 32 GB
Picture Resolution	12MP = 4000x3000 10MP = 3648×2736, 5MP = 2560×1920
Video Resolution	720P HD (1280×720) VGA (640×480)
PIR-Sensor	Multi-zone
PIR Sensitivity	Adjustable (High / Normal / Low)
Trigger Time	1 sec
Weight	0.30 kg
Operation/Storage Temperature	-20 - +60°C / -30 - +70°C
PIR-Interval	0 sec - 60 min
Photo Burst	1–6
Video Length	5-180 sec
Power Supply	8×AA or 4×AA
Stand-by Current	< 0.25 mA (<6mAh / Day)
Power Consumption	400 videos(intervall=5 min., video length=10 sec >500 MMS (8*AA-batteries)
Display Screen	LCD display on camera
Sound Recording	Available
Network Bands	850MHz, 900MHz, 1800MHz, 1900MHz WCDMA: 850MHz, 900MHz, 1900MHz, 2100MHz
Mounting	Rope / Belt / Python lock
Dimensions	147 x96 x79 mm
Operation Humidity	5 % - 90 %
Security Authentication	FCC, CE, RoHS

*without battery

Appendi IV: Parts List

Part Name	Quantity
Digital Camera	One
USB Cable	One
Belt	One
User's Manual	One
Antenna	One
Warranty Card	One

Website Information:
Down load the APP software from here:

http://www.bolyguard.com/Download.htm

(Version 1.0)

Guarantee: We grant on this product a guarantee of 24 months, according to the pertinent statutory regulations, from the date of the purchase by the initial user.
This guarantee covers all material or production defects; however, it does not cover the following: Faults and defects resulting from normal wear, including wearing parts, seals etc.; damages or defects arising or as a result of alteration.
We reserve the right to reject a guarantee claim if the purchase cannot be proven, or if the product was improperly serviced or was obviously erroneously maintained (not or insufficiently maintained; cleaning and servicing).
Please retain the proof of purchase documentation because this is valid as proof of date of purchase.
In case of a guarantee claim, the machine must be returned to the dealer in a clean state, and in its original packaging if possible, and not disassembled in any way. Proof of purchase must also be included.

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